



RESPONSE

It is a great honor for me to receive the Medal of the Seismological Society of America, but at the same time I feel a bit guilty for being given this honor for doing what I love to do. Perhaps I should have given a medal to the Seismological Society of America for providing all of us with an exciting professional environment for doing the science we all love.

I hope that I have done something useful for seismology, but I must admit that my science has been pretty much dictated by my own interest rather than its relevance to, or usefulness for, something else. I sometimes feel that what I am doing may not be relevant to anything at all, but I simply cannot stop doing it as soon as I see waves coming into my sight.

My early days at the Geophysical Institute of the University of Tokyo, the Massachusetts Institute of Technology, and the Earthquake Research Institute were exciting in many ways, maybe too exciting toward the end

when I left the Earthquake Research Institute in 1972. My teachers, colleagues, and students at these institutions have had an immeasurable impact on the way I do science today.

Caltech Seismological Laboratory is a wonderful place that has provided me an extremely stimulating environment for my research. The single most important factor that has kept me alive in this competitive field is the intellectual interaction I have had with my colleagues, students, and visitors who passed by the Lab on one occasion or another. Many thanks to all of these people for intellectual stimulus, and to the staff who supported my activities.

I cannot respond adequately enough to the kind comments made by Don Anderson. To be honest, I just do not have enough power-tools to tackle complex and difficult problems in detail, and I have to use a relatively simple and intuitive approach to solve the problems that catch my attention. I am glad that there are still many

interesting problems in seismology that can be worked out by a person like me who has only limited tools.

Interaction with students has kept me going, although, admittedly, it also occasionally has driven me to the wall. In the end, however, I discovered that interaction with fresh and energetic brains is the most effective way to learn something new. I thank all the students in the past and present for having kept me busy and being patient with my somewhat unorthodox style in instruction and language.

I am fortunate to have lived long enough to benefit from the modern seismic networks, which have brought the excitement of doing "real-time science." We deal with geological processes that change every second. Nothing is more exciting than to see them as they occur and to understand the fundamental physics in real-time, at least to try to understand it. The modern seismic networks allow us to do all this. I believe that there is a fundamental difference between witnessing an event as it develops and being told the whole story after the event is completed.

This is somewhat akin to the difference between sitting in a class and reading a textbook. In a class, we see the teacher writing equations and fig-

ures piece by piece, thereby following the process of building a theory. In contrast, in a book, we see only completed figures and equations but not the process of building them. Those who do not benefit from attending classes may not benefit much from real-time seismology.

Another obvious benefit of real-time science, especially in seismology, is its use for society's needs. Although it always gives me a great satisfaction to solve some of the mysteries of Nature, I have always had, in the back of the my mind, a desire to contribute, even in a small way, to the welfare of the public. Seismology is obviously a good field in which to satisfy this desire, but somehow I was never sure whether or not I was doing it effectively. Since we started real-time seismology, however, I feel, for the first time in my life, that our science can contribute in a significant way to the welfare of the public. Collaboration with Tom Heaton and Egill Hauksson in the new venture, CUBE, has been extremely stimulating to me.

All of this had been a wonderful experience. To Don Anderson, my deepest thanks, and to all of you as well.

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